

WHAT IS CLAIMED

1. Apparatus for performance-monitoring of a synchronous optical network
standard signal comprising:

means supplied with the standard optical signal for converting the standard optical signal to an electrical signal;

means for separating from said electrical signal the framing signal portion thereof and leaving in its time slot the noise that was on the framing signal; and means for separating selectively for inspection such noise from the data power for use as a measure of the quality of the standard optical signal.

- 2. The apparatus of claim 1 in which the means for separating the noise from the data includes a squaring circuit for increasing the discrimination between the relatively low noise power and the relatively high data power, and a low pass filter circuit for passing selectively the noise power to a display for viewing.
- 3. The apparatus of claim 2 in which the squaring circuit is a diode.
- 4. The apparatus of claim 1 in which the means for separating the framing signal from its noise is a notch filter.
 - 5. The apparatus of claim 4 in which the framing signal is separated from the noise in its time slot by a low pass filter including two 50 ohm lengths of transmission line and two one-quarter wavelength stubs of such a transmission line, of which one is shorter and the other open-ended.
- 6. The apparatus of claim 2 in which the means for separating the framing signal power from the noise power in its time slot is a notch filter.

- 7. The process for performance monitoring of a SONET standard signal
- 2 comprising the steps of converting the signal into an electrical signal, separating
- from said electrical signal the framing signal in a manner to leave the noise in
- the framing signal time slot and the data power essentially undisturbed, and
- displaying the noise power in the framing time slot of the separated signal.
- 8. The process of claim 5 in which before its display the separated signal is
- treated to increase the difference in level of the noise power in the framing slot
- and the data power of the signal.